GFO-15-311: Advancing Solutions That Allow Customers to Manage Their Energy Demand

California Energy Commission January 22, 2016

Pre-Application Questions, Answers, and Clarifications

State of California California Energy Commission

http://www.energy.ca.gov/contracts/index.html

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Administrative

Q1: Clarification on screening and scoring. How do these work?

A1: Please review the Evaluation and Award process in Section IV (pages 30 – 39 of the Grant Application Manual. Evaluation is composed of two stages; screening and scoring. An application must pass all 7 of the screening criteria (Section IV.E.) in order to advance to the scoring stage (Section IV.F.). At the scoring stage, an application must earn a total of at least 49 points from scoring criteria 1-4 and a total of 70 points for scoring criteria 1-7 to be eligible for funding. Eligible applications will be ranked, and available funding will be allocated in rank order for each group.

Q2: What is the maximum duration of a proposed project under group 1 or 2?

A2: The anticipated agreement end date for all projects funded in this solicitation is March 31, 2020. An addendum to the solicitation will be issued to reflect this new end date versus the one stated in Section I.G of the application manual, Key Activities Schedule.

Q3: Can an applicant submit multiple proposals?

A3: Please refer to the Grant Application Manual, Section I A, page 4. "Applicants may submit multiple applications, though each application may address only one of the project groups. If an applicant submits multiple applications that address the same project group, each application must be for a distinct project (i.e., no overlap with respect to the tasks described in the Scope of Work, Attachment 6). An applicant must not submit two proposals in the same group that are identical or have substantial overlap in their project design. We don't want multiple proposals of slightly different flavors. Applicants should focus their effort on their best proposal for each group.

Q4: What concessions will the committee make for earlier-stage companies/technologies that may not have several references at the time of application submission?

A4: Applicants must provide references to the extent they are available and document them on Attachment 9. These references will be evaluated in accordance with the scoring criteria in Section IV.F. If you are a new company with limited references, you can highlight your own personal experience and that of your team members in Attachment 9. However, personal experiences may not be scored as highly as team history and experience.

Q5: Regarding pictures in Attachment 3, none are to be submitted in the application? The question surfaces because of the sample picture in the booklet provided at the conference.

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A5: There is no need to provide pictures for Attachment 3 in the application.

Q6: In the booklet provided at the workshop, EE (Eligibility Requirements, page 20) is missing from Key Words/Terms on page 4. Thus, what is EE defined as?

A6: EE is defined as "Energy Efficiency." We will add this to the Key Words/Terms.

Q7: Can all application materials be submitted to the CEC electronically, or do they have to be submitted on paper via regular mail per the previous CEC grant submittal process?

A7: Electronic submissions are not available for this solicitation. As indicated in Section III.A., you will need to submit six (6) hard copies (including one copy with the original signatures) and one electronic copy (on a CD-ROM or USB-memory stick) must be received to the Energy Commission by 3:00 p.m. on February 1, 2016.

Q8: Budget Question: The current EPIC CEC grant allows for participants to bill the CEC for labor, G&A, and Fringe as part of the overall budget. Since we are a small company we will use a lot of the same resources to complete this project, will there be a conflict for the new grant for the same participants to draw funds?

A8: No. Your staff can work on multiple CEC grants at the same time (consulting contracts are treated differently under the California Public Contracting Code). However, you cannot double bill, i.e. bill CEC under both projects for the same hours or work. All of our grants are subject to financial audits and any overbillings will need to be reimbursed back to the state.

Q9: What are the limitations on an entity in terms of being the prime on an application and potentially being a subcontractor on one or more other applications?

A9: The only limitation is that each application must be for a distinct and different project and there is no overlap with respect to tasks in the scope of work. For instance, we are not interested in proposals where the prime or subcontractor is substituting for each other on the same project in multiple applications.

Q10: Discussion during the workshop regarding one entity potentially participating in more than one application within the same group was unclear. Please clarify?

A10: As indicated in the Grant Application Manual, Section I A, page 4. "Applicants may submit multiple applications, though each application may address only one of the project groups. If an applicant submits multiple applications that address the same project group, each application must be for a distinct project (i.e., no overlap with respect to the tasks described in the Scope of Work, Attachment 6). An applicant must not submit two proposals in the same

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group that are identical or have substantial overlap in their project design. We don't want multiple proposals of slightly different flavors.

Q11: While scoring criteria is clear enough generally, for instance, residential and small commercial customers were specified in Group 2. Are there other priority areas that may not have been explicitly specified?

A11: Please refer to Section II.B., Project Requirements. This section provides information on the priorities and research interest for each of the groups. There are no other priority areas.

Terms and Conditions

Q12: Under Groups 1 and 2, what is expected by the CEC in regards to ownership of the distributed resources (e.g., energy storage, distributed renewable generator, etc.) to be installed using EPIC funding, both during the course of the proposed project and after the close of the project?

A12: Please see the EPIC Standard Terms and Conditions posted on the Energy Commission website:

http://www.energy.ca.gov/contracts/epic_terms_segmented/EPIC_Standar d_Grant_Terms_and_Conditions.pdf

14. Equipment. Title to equipment acquired by the Recipient with grant funds will vest in the Recipient. The Recipient may use the equipment in the project or program for which it was acquired as long as needed, regardless of whether the project or program continues to be supported by grant funds. However, the Recipient may not sell, lease, or encumber the property (i.e., place a legal burden on the property such as a lien) during the Agreement term without the Commission Agreement Manager's prior written approval.

The Recipient may refer to the applicable federal regulations incorporated by reference in this Agreement for guidance regarding additional equipment requirements.

Project Focus

Q13. For Funding Groups 1 and 2 are you focused on customer type or product pathway? That is, what is the difference between Groups 1 and 2: Focus on customer type or Wholesale vs. retail or distribution markets?

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A13: The distinction is between the current product pathways. However, you must address the potential for customers to utilize innovative operational strategies to manage their small and large loads and distributed energy resources (DERs) in response to system needs in ways that are not currently reflected in nor incentivized by existing markets and program/tariff structures. Therefore, it is conceivable that the strategies developed and tested under this research solicitation will not precisely fit the current bifurcation between supply and load following resources. As a practical matter, Group 1 projects would likely involve large customers or Demand Response Providers managing aggregations of smaller loads. Group 2 projects would likely involve residential and commercial customers

Q14: Is the main differentiation between Group 1 and Group 2 the difference of customer type (i.e. commercial vs. residential) or the difference of product pathway (i.e. wholesale market products vs. retail products)?

A14: See the response to Question 13.

Q15: If applying for either Group 1 or 2; say 1, should you include in your discussion how this could also apply for Group 2?

A15: In general, the potential for wider applicability of project results is considered positively in the proposal evaluation process (see Scoring Criterion 3: Impact and Benefits for California IOU Ratepayers on page 36 of the application manual).

Q16: If a Group 1 proposal has tasks that cover objectives described in Group 2, would that Group 1 proposal receive a reduction in points due to "scope creep"?

A16: No.

Q16a: In other words, should a project clearly delineate the requirements specifically for one group and avoid fulfilling any objectives from another group?

A16a: A proposal should clearly delineate how it meets the requirements for the group under which it is being proposed. It is also appropriate to discuss applicability to other groups.

Q17: We have the following questions: a) For time of use (TOU) evaluation, would we need an IOU partner? b) Are IOUs excluded from bidding? c) Is that there TOU data that is publicly available? d)Would you need an IOU partner for evaluation?

A17: a) No. you do not need an IOU partner. The intent is not that a project duplicate or assess IOU pilots but to compare and evaluate how customers participating in the project would fare under published and proposed TOU rates and other rates/tariffs/incentives—including the transactive signal being developed under Group 3; b) IOUs are not excluded from participating in this

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solicitation; c) To the extent that a proposed project would depend on obtaining utility or other third party data and/or cooperation, a signed letter of intent with the utility and/or third party is required; d) No. However, you must document and measure success according to the parameters approved by the Energy Commission and must include a design configuration that provides the highest value to customers, ratepayers and utilities (Groups 1 and 2-see Section II.B.2).

Q18: Is there a specific customer segment focus?

A18: No. For Group 1 (Section II.B.2.a.) it was stated that "Participants in these projects will most likely be large industrial or commercial customers or Demand Response Providers." For Group 2 (Section II.B.2.b.) it was stated that "Participants in these projects can be from any customer sector, but residential and small commercial customers should be included in sufficient numbers that both participation forecasts for sector subgroups and initial performance estimates can be made."

Q19: What constitutes a pricing signal in this context; would IOU tariffs and/or CAISO real time pricing be considered pricing signals?

A19: Yes.

Q20: What is the minimum number of residential buildings (houses) which is necessary to be aggregated as test site?

A20: There is no minimum number of building or customer participants needed for a test site.

Q20a: Can we mix residential and commercial customers?

A20a: Yes.

Q21: Would a proposal that includes multiple distributed resource types (distributed generation, storage, ee, load control, etc.) be looked upon more favorably than a solution that is focused upon fewer resource types? In other words, does the Energy Commission have a preference for solutions with a wide variety of resource types or a narrow focus on resource types?

A21: Solutions that address the challenges of managing a customer's "portfolio" of resources—end-use loads, and storage and generation—are preferred. Applicants should articulate why they chose their particular research approach and describe how the results contribute to the overall goal of assessing customer load management strategies.

Q22: Is any hardware expected to be purchased under Group 1, or is this a paper study on strategies to follow?

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A22: Hardware can be purchased in either Groups 1 or 2. We expect some hardware purchases—particularly control equipment—especially if the purpose of the investment is to expand a customer's load management options. However, it is not the intent of the solicitation to fund large investments in hardware—such as investments in distributed energy resources. The solicitation's focus is intended to be on developing and testing operational strategies for responding to different signaling and incentive structures that have the potential to increase and expand participation. To the extent that adding DERs for some participants is critical to achieving the solicitation goals, those investments are acceptable. Applicants should consider carefully, however, the degree to which the budget for such investments "crowds out" other budget categories such as number of participating customers, customer load assessment, strategy development, and data collection/analysis.

Q23: For Group 2 projects, must the proposed project include new installation of distributed resources or can the proposed project leverage an existing community of residences with storage, DG, load controls, etc. previously installed from a prior project funded from another source?

A23: Group 2 projects are not required to include new installation of distributed resources. Projects may utilize existing equipment/infrastructure from prior projects.

Q23a: Does the source of the prior project matter for leveraging under the current solicitation?

A23a: No. The prior equipment cannot be counted towards match funding on the project.

Q24: We have the following questions: a) Are electric energy storage R&D pilots eligible? b) Can these be new pilots, and/or existing ones tested with new strategies?

A24: a) Yes, existing electric energy storage pilots are eligible. However, focusing on response strategies that only include storage utilization (or any single approach) would be narrower than the solicitation intends. See also response to Question 23.

b) They can be new or existing pilots.

Q25: Can CEC funds go to build an electrical storage pilot that would be used to test new operational strategies, or would said system have to be considered match, with the CEC funding going specifically to the operational strategies development?

A25: Yes, CEC funds can be used to build electrical storage to test new operational strategies. If proposing a new facility, the applicant should be cognizant of the CEQA requirements (Attachment 8). The time line is very short,

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so any proposal to build a new facility may have difficulty meeting CEQA requirements in time to meet the CEC encumbrance deadline (see Section I.D.).

Q26: For group 2, how are you defining "small commercial?" under 100k sq/ft? Would, for example, supermarkets qualify?

A26: The solicitation does not define "small commercial" customers, however the general intent is to include commercial customers who do not typically participate in supply-side Demand Response programs offered by the IOUs; generally, customers with lower than 200kW of peak demand.

Q27: Does Group 2 focus on R&D for a new technology or demonstration of certain strategies?

A27: Group 2 focuses on developing and pilot testing of technologies and strategies. Pilot tests occur when technologies are beyond the proof of concept stage and preliminary data shows promise.

Q28: On page 18 of the application manual an example is given of potential research to develop "less-expensive telemetry technologies". Can you give an example of the cost-point under the status quo to beat in order to be considered "less expensive"? Is the status quo of telemetry technologies to beat considering the RIG and DPG telemetry solutions or also newer telemetry solutions commercially available today but not widely applied yet in the CA marketplace? In short, what is "less-expensive telemetry technology" in reference to? Less expensive than what?

A28: The intended comparison is to the cost of telemetry technologies that meet CAISO requirements. The referenced "potential research" bullet should be considered in its entirety, including the goal of "..lower[ing] the *cost* of metering and telemetry..." (emphasis added), which does not necessarily involve hardware improvements.

Q29: On page 18 the solicitation says, 'Performance under different scenarios, including the transactive signal as developed as part of the Group 1 project'. Is this talking about the transactive signal developed under Group 3?

A29: Yes.

Q30: For Group 1 projects, is actual participation in the CAISO market with supplyside DR expected as part of the pilot testing?

A30: No.

Q31: What is the minimum size for an end-use customer involved in pilot testing that would require a letter of commitment from that customer? (e.g., commercial facility and larger, versus letters from individual residential customers).

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A31: Commitment letters from individual participating customers are not required unless that particular customer's participation is critical to the research design (i.e. the research project was for a specific facility). Also see Section III.C.11.

Q32: To what extent can a utility or other aggregator commit pilot involvement of customers, and satisfy the letter of commitment requirement for pilot test sites? Do the customers already need to be identified at the time of proposal, or can the commitment be to identify customers after award?

A32: It is acceptable for a utility or other aggregator to commit to providing a sufficient number of customers/test sites without specifically identifying individual customers that would compose the final participant group. However, as indicated in Section III.C.11, "to the extent the recruitment involves obtaining the services of an intermediate party (such as a utility providing a list of customer contact information), a letter that commits that party to providing those services is required" at the time of proposal submission.

Q33: In the conference, it was stated there were no minimum number of project partners or test sites. Thus, is there a maximum or recommended number of project partners or test sites to apply that would provide adequate sampling?

A33: No.

Q34: Would submitting a proposal to conduct research to expand existing data collection and analysis on partner sites already participating in another CEC grant project be eligible?

A34: Yes. Leveraging an existing project to develop a more sophisticated response strategy is eligible for funding under Groups 1 or 2. Please see answer to Ouestion 8.

Q34a: Or would new project partners or test sites need to be found under this application?

A34a: No. There is no requirement for new partners or test sites. See response to Question 34. However, applicants should be cognizant of the solicitation goals of expanding DR participation in designing their projects.

Q35: Given the diversity of expected participants, what advice can you offer to help in identifying residential participants (households) and private sector participants? Is having residential participants a requirement?

A35: Having residential participants is not a requirement. However, one of the goals of the Group 2 awards is to develop and operationalize response strategies—under different incentive structures—among small customers, including residential customers. Strategies for identifying participants include

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leveraging existing utility program participants, generating participation through mail, telephone, or internet/social media recruitment, collaborating with partners (including utilities, and/or community choice aggregators) who have relationships with members of your population of interest, or developing a population of interest affiliated with an organization with which you can collaborate that will provide some level of credibility (and thus higher response rates) to your appeal for participation (e.g. a municipality or community group). To the extent participant recruitment is required, the application must describe which customers (or customer groups) are being targeted for recruitment, how that recruitment will be accomplished and the timeframe for completing the recruitment stage of the project. This information must be described in the Technical Approach in the Project Narrative Form, Attachment 4 and in detail in the Technical Tasks in the Scope of Work Template and Project Schedule, Attachment 6.

Q36: Under this RFP, can agricultural customers be included as project partners or test sites?

A36: Yes.

Q37: For Group 1, would a project using residential customers aggregated under a Demand Response Provider be at any disadvantage to a project using large commercial or industrial customers?

A37: No.

Q37a: In other words, say there are two Group 1 proposals that are exactly the same except one proposal uses residential participants and the other proposal uses large commercial or industrial participants. Would those two projects be given the exact same number of points?

A37a: The purposes and expected outcomes of two such proposals would differ depending on the type of participating customers, thus, the research methods proposed would have to differ as well. It is unlikely that they would be given "...the exact same number of points...", but that difference would not be a reflection of a preference for one customer group over another. The score would reflect how well the other project expectations articulated in the solicitation manual for that group were fulfilled.

Q38: If an applicant proposes to add new market products to an existing customer facing platform, can you confirm that the project overall qualifies as "Applied R&D Stage"?

A38: Yes, but please be cognizant of the expectations articulated in Section II.B.2. of the solicitation manual. In this solicitation, the "applied research" criteria are associated with the development and pilot testing of operational strategies for demand response participation.

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Q39: During the interim in which the transactive signal (to be created in Group 3) is being developed, could projects in Group 1 and Group 2 propose an alternative method of creating a transactive signal to achieve the goals of Group 1 and Group 2?

A39: Yes. However, the application would need to explain why an alternative transactive signal is needed and to explain this in the Technical Approach in the Project Narrative Form, Attachment 4.

Q40: Is the transactive signal in Group 3 intended to prioritize multiple different signals and create a dispatch mechanism that intelligently optimizes across the various signals?

A40: To clarify, the "transactive" signal is meant to incorporate information about the electricity system—including current wholesale market information (including prices, both long-term and short-term)—in a way that best optimizes across system conditions (i.e. economic and physical) AND policy goals (e.g. carbon and criteria pollutant emissions, incorporation of renewable generation, support of vehicle fleet electrification). This could include existing "signals" but could also include, for example, forecasts (including short term) of intermittent renewable production and forecasts of DR performance (i.e. consumption) under different real-time incentives.

Q41: Can a Group 1 or 2 project proposal also include scope that addresses aspects sought under Group 3, beyond testing the transactive signal developed by the Group 3 awardee?

A41: Yes.

Q42: In general and where relevant, would it be preferable to the CEC to have a single hardware manufacturer or multiple hardware manufacturers within a proposal? (The tradeoff is that a single hardware manufacturer would hinder a competitive hardware marketplace whereas multiple hardware manufacturers would limit analytic comparisons because we have introduced a new variable to account for).

A42: Either is acceptable; the applicant is responsible for articulating the value (and tradeoffs) of their chosen research approach.

Applied Research Requirements

Q43: Can new products not currently in the markets count as R&D? For example, repurposing a current product as a new product. Is this one of the items that the CEC is looking for? OK to design new products for this solicitation?

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A43: Yes, new products not currently in the market can be used. Repurposing a current product as a new product, or combining existing products in novel ways, could be eligible if the new product features were a critical contributor to the project savings and benefits.

Q44: Can both Strategy and product development be included in one proposal as applied research proposal?

A44: Yes, both can be included.

Q45: What type of product is eligible for this solicitation? new/pre commercialized?

A45: The goal of the solicitation is to develop and test customer load management strategies, thus no "products", equipment or technology are excluded. However, a proposal with the sole purpose of demonstrating a specific pre-commercial "product" to the exclusion of other expectations and goals articulated in the solicitation manual (Sections I and II) would likely not be scored as highly as other proposals that more substantively address those expectations and goals.

Q46: Is the expectation to use existing off the shelf hardware/systems to validate new strategies, or can funds go towards R&D of new hardware/technologies?

A46: There is no expectation either way. Funds may be used either to develop new hardware/technologies and/or to procure existing hardware/systems. However, if procuring existing hardware/technology those systems must be used in novel ways that will be documented as part of the research project. The "precommercial" element in this context applies to the operational strategies to be developed as part of the projects. The applicant should review Sections I and II of the solicitation manual to assess technology development/procurement, response strategies and potential to facilitate increased customer participation and grid impact.

Q47: For Group 1 and 2 proposals, can the "pre-commercial" requirement of applied R&D be satisfied by pilot testing new operational strategies developed?

A47: Yes.

Q47a: To what extent do all the distributed resource technologies (e.g., storage system) need to be pre-commercial too?

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A47a: The distributed resource technologies themselves do not need to be precommercial; existing technologies must be combined and operated in novel ways. See also the response to Question 46.

Group 4

Q48: For Group 4 - is there an expectation to include a Demonstration of the lighting retrofit in a building/buildings? If so can you give us more details of what types of buildings are targeted?

A48: No. The goal is to evaluate costs/benefits of demand-response capable lighting control systems for existing buildings.

Q49: Can control technology that is primarily focused in refrigeration also be included or is it restricted to lighting?

A49: Group 4 is focused on lighting; however, in Groups 1 and 2, refrigeration is acceptable and maybe even expected.

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